

Work Order ID 69797

69797

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Item ID: D6005-180 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Crosstube Material
 Start Date: 5/19/11 Start Qty: 12.00 *12* Cust Item ID:
 Required Date: 6/15/12 Req'd Qty: 12.00 *12* Customer:
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*
 QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6005	Rev A

100 PURCHASING 0.00
 100
 Purchasing Memo 0.00
 Purchasing Issue P/O: 14138 a) Extrude as per Dwg D6005 length = 180"
 (Ref. D6005-180)b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9
 or QQ-A-200/11)) Seamless aluminum tubec) Minimum ultimate tensile
 strength = 77ksid) Minimum tensile yield stren

CX 11/05/19 12

110 Receive & Inspect for Damage & Mat'l Certs 0.00
 110
 Packaging Memo 0.00
 Packaging Ensure material certification is attached

Per 5/19 (14)

120 QC6- Inspect dimensions to drawing 0.00
 120
 QC Memo 0.00
 Quality Control Ensure Material certification comply to Dwg D6005

5 7/17/07

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Item ID: D6005-180 Accept ***N9000040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: Crosstube Material
 Start Date: 5/19/11 Start Qty: 12.00 ***12*** Cust Item ID:
 Required Date: 6/15/12 Req'd Qty: 12.00 ***12*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run-Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00							
140 *140* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00							
150 *150* Packaging Packaging	Identify as per dwg & Stock Location Memo	0.00 0.00							

Handwritten signature and date: 12-2-11

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Item ID: D6005-180

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Crosstube Material

Start Date: 5/19/11

Start Qty: 12.00

12

Cust Item ID:

Required Date: 6/15/12

Req'd Qty: 12.00

12

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start *NR1*

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.00

Quality Control

12/7/24

ML5 12/07/23

Picklist Print

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Work Order ID: 69797

Parent Item: D6005-180

Start Date: 5/19/11

Required Date: 6/15/12

Parent Item Name: Crosstube Material

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:C04.06.15Added tolerance to Step 2KJ/JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6005-180P		Purchased	No			120	Each	14.0000	1	12			
Crosstube material													

Location

Loc Qty

Loc Code

MAT

14

69797

14

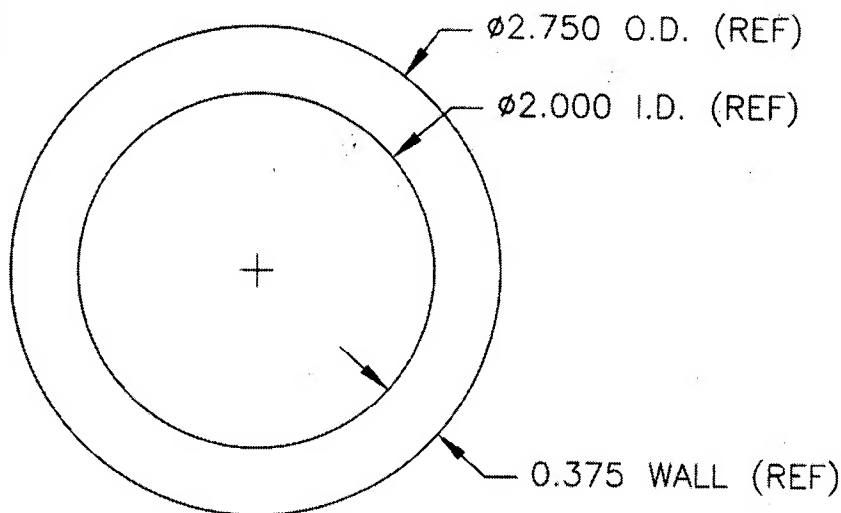
Py 2/8/9 1/14



DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>A</i>	APPROVED <i>A</i>	DRAWING NO. D6005	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24 *A*



NOTES

- 1) D6005-XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 128" LONG TUBE: D6005-128

- 2) MATERIAL: 2.750 OD x 0.375 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY)
WALL: ± 0.015 MEAN (± 0.038 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART, QSI 005 4.1

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Al Uma ref. no.	42438/4
Customer PO.	PO. 14138
Date:	04.18.12

Boxmarking.

Dart Aerospace/P.O. 14138
D6005 - 180
Made in Germany Dest.: Hawkesbury ONT, Canada

free from live plant pests

903 m³

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: 436/12

Cert No. / No. du certificat:

Bestellnummer: PO14138

Order No. / No. de commande

Auftrag: 42438/4

Our Reference/Notre Reference:

Produkt: Rohre nahtlos gepresst

Product / Produit: Tubes seamless extruded

Spezifikation: AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6005

Specification:

Werkstoff: 7075

Alloy/Alliage:

Zustand: T 6511

Temper/État

Abmessung: 2,750 INCH x 2,000 INCH x 0,375 INCH x 180,000 INCH

Size / Dimension: D6005-180

Kennzeichnung: Cert.No. 436/12 - ALUnna - 7075 - T6511 - Cast No. 7490 - AMS - QQ - A - 200/11 - 2.750" OD x 0.375" Wall - Heat Lot No. 1401164 - ALUnna Order Conf. No. 42438/4-1 - P.O. 14138

Marking/Marquage:

Lieferung

pcs.

lbs

Country of Manufacture: Germany

Delivered Material / Matériel délivré:

14

727

Products are in accordance with applicable RoHS

1. Chemische Analyse

Chemical Analysis / analyse chimique

Elemente ohne Grenzwerte:
einzel max. 0,05 %, insgesamt 0,15 %

Charge/ Cast No.	min.	max.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
			0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
7490/12			0,096	0,201	1,513	0,069	2,550	0,218	5,985	0,038	0,004	0,0415	0,0001	0,0017	0,0002

Hydrogen content: 0,09

ccm/100 g Al Elements without indication < 0,01 %

country of melt manufacturer: Germany

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	77,0	66,0	7,0			
max.						
1	86,275	78,010	8,0			1401164
2	84,970	77,285	9,0			

RMS: outside 25 - max. 23,0 µ"

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats:

Nous confirmons que la livraison a été contrôlée et correspond avec les conventions faites à la réception de la commande

mergardtri

30.03.2012



Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2003

valid until 2013-11-10

Cert.- Reg. No.: 001959 QM08; 001959 ASH



ALUnna

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

Abnahmebeauftragter

EXTRUSION INSPECTION SHEET

		SIDE A		SIDE B		ULTRA SONIC MEASUREMENTS							
TUBE #	TOTAL LENGTH	DIA two readings	DIA two readings	INSIDE DIA	wall thickness measured w/vern	Strightness at 12"	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4	
DWG	180.00"	2.750"	2.750"	2.000"	0.375"	0.010"	N/A	Middle	N/A				
1	180.00"	2.749"/2.750"	2.751"/2.754"	1.983"	0.375"/0.386"	.0009"	N/A	Middle	0.380"	0.387"	0.396"	0.390"	
2	180.00"	2.748"/2.752"	2.753"/2.755"	1.985"	0.371"/0.395"	0.020"	N/A	Middle	0.391"	0.395"	0.376"	0.382"	
3	180.00"	2.742"/2.750"	2.750"/2.752"	1.980"	0.378"/0.394"	0.011"	N/A	Middle	0.380"	0.387"	0.391"	0.379"	
4	180.00"	2.754"/2.756"	2.750"/2.754"	1.980"	0.379"/0.397"	0.014"	N/A	Middle	0.390"	0.391"	0.382"	0.384"	
5	180.00"	2.751"/2.752"	2.748"/2.752"	1.982"	0.368"/0.388"	0.005"	N/A	Middle	0.379"	0.391"	0.391"	0.381"	
6	180.00"	2.748"/2.756"	2.754"/2.753"	1.979"	0.376"/0.390"	0.016"	N/A	Middle	0.394"	0.382"	0.384"	0.391"	
7	180.00"	2.749"/2.751"	2.752"/2.749"	1.981"	0.380"/0.397"	0.010"	N/A	Middle	0.392"	0.383"	0.379"	0.391"	
8							N/A	Middle					
9							N/A	Middle					
10							N/A	Middle					
11							N/A	Middle					
12							N/A	Middle					
13							N/A	Middle					
14							N/A	Middle					
15							N/A	Middle					
PART # 6005-115		P/O# 14138			BATCH # B69797			Notes:					